

I had been much interested to learn how the larva makes this shellac-like, transparent layer with its few strands, and had supposed that it was composed of two kinds of secretion, a framework of silk over which was laid a quick-drying liquid. But observation of the process disclosed the fact that the silk is spun in a thread, but the thread is very soft and largely semiliquid so that it spreads out and coalesces with the adjacent threads, while still maintaining somewhat in the center its strand-like appearance.

When first secreted the silk is colorless, gradually assuming the amber tint.

For a long time after the beginning of the inner layer the tip was left open, but it was gradually closed and made thick by short strokes of the head back and forth across it. In this way the little cap that the adult pushes off in emerging was differentiated from the main body of the cocoon.

After the parasite has issued from its host the latter drops, still living, to the ground, where it writhes aimlessly about until death overtakes it, in many cases, twenty-four hours or more later.

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#### A SYNOPSIS OF THE SPECIES BELONGING TO THE CHALCIDOID GENUS *RILEYA* ASHMEAD (HYM.)

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The genus *Rileyia* Ashmead (Ent. Amer. IV, 1888, p. 42 and Bull. 3, Kans. State Agri. Coll., 1888, App. p. 3.) which has as a synonym *Ashmeadia* Howard (Can. Ent. XXI, 1889, p. 59) is, so far as known, confined in its distribution to North and South America and the West Indies. All of the described species as well as four new species are included in the key given below. A number of the species are placed in the key from the original descriptions, the types not being accessible for comparison. Short descriptive notes on the species, types of which are in the United States National Museum, are included.

All of the species for which there are rearing records are apparently parasitic in the galls of dipterous insects.

The genus is characterized by having thirteen-jointed antennae, the funicle five-jointed, the club three-jointed; antennae of the male similar to that of the female (except in the species *abnormicornis*); head strongly transverse; posterior margin of cheeks sharply carinate; pronotum as broad as the mesonotum and approximately the same length, rounded in front; meso-

scutum with delicate but complete parapsidal grooves; scutellum carinately margined at apex; thorax above rugulose or shagreened, never umbilicately punctate; propodeum short, narrowed at apex into a short neck, and usually with a more or less distinct transverse carina a little before the middle; marginal vein slender and approximately half as long as the submarginal; front coxae with a more or less distinct fovea beneath a little before the middle; first joint of all tarsi short, rarely longer than the second joint; abdomen sessile in the female, petiolate in the male, rather robust, more or less conic-ovate, as long or a little longer than the head and thorax, the ovipositor barely exposed at tip.

*Key to Species of Rileya*

Females

1. Yellowish or testaceous species, sometimes more or less brownish above..... 2
  - Black species, in only the species *orbitalis* conspicuously marked with yellowish..... 8
2. Stigmal vein ending in a large rounded knob..... *megastigma* Ashmead
  - Stigmal vein ending in a small knob, normal..... 3
3. General color yellowish-white; praescutum, parapsides discally, median stripe on scutellum, propodeum, pleural sutures, border of hind coxae, petiole, and a broad stripe above and below on abdomen, brownish; pronotum entirely yellowish; face with a median brownish stripe..... *collaris* Howard.
  - General color not yellowish-white, or if so, the pronotum is not entirely yellowish and the face is without a median brownish stripe..... 4
4. Third tergite (not counting the petiole) much the largest one; abdomen with but two small disc-like tergites at base..... 5
  - Fourth visible tergite the largest; abdomen with three small tergites basally..... 6
5. Head, viewed from in front, forming a nearly equilateral triangle; malar space, in profile, nearly straight, as long as the eye and without a carina separating cheeks from face; head, thorax, and abdomen above dark brown; face orbits, cheeks, three longitudinal spots above and sides of pronotum, spot on inner margin of parapsides, spot on axillae, lateral margins and apex of scutellum, large spot on sides of third tergite, and legs, yellowish-white..... *pulchra* Ashmead
  - Head, viewed from in front, broader than long; malar space, in profile, convexly rounded, shorter than the eye, with a distinct carina separating cheeks from face; color uniformly dark reddish testaceous..... *heterogaster* n. sp.

- 6. Third tergite extending nearly to the middle of abdomen; propodeum without a distinct transverse carina..... *mellea* Ashmead  
 Third tergite much smaller, not extending nearly to the middle of abdomen; propodeum with a distinct straight, transverse carina..... 7
- 7. Abdomen strongly compressed from the sides; apical exposure of the third tergite distinctly longer than the second  
*compressiventris* n. sp.  
 Abdomen not strongly compressed from the sides; apical exposure of the third tergite equal to the second or no longer. *hegeli* Girault
- 8. Third tergite much the largest, occupying most of the abdomen... 9  
 Fourth tergite much the largest..... 10
- 9. Face and orbits yellow or brownish yellow; pronotum and abdomen brownish..... *orbitalis* Ashmead  
 Head entirely black; pronotum and abdomen black  
*insularis* Ashmead
- 10. Frons without distinct antennal depression  
*gallicola* Kieffer & Jörgensen  
 Frons with a distinct antennal depression..... 11
- 11. Antennae, except the two proximal joints, white; mesonotum anteriorly transversely striated..... *albicornis* Kieffer & Jörgensen  
 Antennae not white, either brownish testaceous or blackish; mesonotum coriaceous or shagreened, without striae..... 12
- 12. Tegulae black; scape and flagellum for the most part dark brown or blackish, the former usually testaceous beneath; lateral margins of the dorsal portion of pronotum rounded. not margined..... *tegularis* n. sp.  
 Tegulae not black; scape and flagellum fusco-testaceous..... 13
- 13. Lateral margins of the dorsal aspect of pronotum distinctly angulated and more or less distinctly margined above..... 14  
 Lateral margins of dorsal aspect of pronotum not distinctly angulated or margined, but more or less rounded... *cecidomyiac* Ashmead
- 14. Ocellocular line very distinctly shorter than the postocellar line, only slightly more than half as long; striations of the face not extending upward along the inner margin of the eye much beyond the lower edge of antennal depression; abdomen scarcely acuminate at apex; first antennal ring-joint transverse  
*similaris* n. sp.  
 Ocellocular and postocellar line practically equal; some of the striations of face extending upward along the inner eye-margin beyond the lower edge of antennal depression; abdomen distinctly acuminate at apex; first antennal ring-joint as long as broad..... *americana* Girault

Males

1. Yellowish species sometimes more or less marked with brownish or blackish above..... 2  
 Black species..... 5
2. Third visible tergite (not counting the petiole) much the largest and extending far beyond the middle of abdomen..... 3  
 Fourth visible tergite (not counting the petiole) the largest, the third never extending much beyond the middle of abdomen..... 4
3. Head, viewed from in front, forming a nearly equilateral triangle; malar space, in profile, nearly straight, as long as the eye and without a carina separating face from cheeks; head, thorax, and abdomen above dark brown; face, orbits, cheeks, three spots above and sides of pronotum, spot on inner margin of parapsides, scutellum laterally and at apex, line on each lateral margin of propodeum, more or less of pleurae, and all legs, yellowish white, hind tibia not black at apex..... *pulchra* Ashmead.  
 Head not forming an equilateral triangle, malar space, in profile, convex, shorter than the eye and with a distinct carinate line separating the face from cheeks; color uniformly reddish testaceous, the apex of hind tibia narrowly banded with black  
*heterogaster* n. sp.
4. Abdominal petiole fully twice as long as thick; third tergite very short, the fourth constituting distinctly more than half the length of abdomen; hind tibiae mostly blackish  
*compressiventris* n. sp.  
 Abdominal petiole scarcely longer than thick; apex of third tergite at or very near the middle of abdomen; fourth tergite constituting not more than one-third the abdominal length and hardly more than twice as long as the exposed part of the third; hind tibiae entirely reddish testaceous..... *mellea* Ashmead
5. Second visible tergite (not counting the petiole) occupying more than half the length of abdomen; tegulae black; scape and flagellum blackish..... *piercei* Crawford  
 Second visible tergite (not counting the petiole) small, either the third or fourth tergite the largest..... 6
6. Third visible tergite much the largest tergite, extending far beyond the middle of abdomen; the fourth tergite not much longer than the first; fifth about two-thirds as long as the fourth  
*insularis* Ashmead  
 Third visible tergite not longer than the fourth and not extending much beyond the middle of abdomen..... 7
7. Third visible tergite very short, scarcely longer than the second and not extending beyond the basal one-third of the abdomen; fourth tergite comprising about two-thirds of the length of abdomen and fully twice as long as the three first combined; legs including all coxae pale testaceous..... *pallidipes* Ashmead

- Third visible tergite not very short, distinctly much longer than the second and reaching to the middle of abdomen or nearly; fourth tergite not longer than the three basal ones combined; coxae, at least, black. .... 8
8. Funicle joints very distinctly pedicellate.....*abnormicornis* Ashmead  
 Funicle joints not at all pedicellate..... 9
9. Tegulae black; scape and flagellum dark; lateral margins of the pronotum not sharply angulated or margined.....*regularis* n. sp.  
 Tegulae not black, either pale or ferruginous; scape and flagellum more or less pale.....10
10. Lateral margins of the pronotum margined or sharply angulated; abdominal petiole strongly sculptured.....*similaris* n. sp.  
 Lateral margins of pronotum rounded or at least not angulated or margined; abdominal petiole more weakly sculptured  
*cecidomyiae* Ashmead

**Rileya megastigma** Ashmead.

*Ashmeadia mcgastigma* Ashmead, Journ. Linn. Soc. Lond. Zool. XXV, 1894, p. 145.

*Rileya megalostigma* Schulz, Spolia Hymen., 1906, p. 148 (emendation).

*Female*.—Resembles *heterogaster* but may be easily recognized by the fact that the stigmal knob is greatly enlarged, the diameter of the knob being equal to the length of the stigmal vein basad of the knob. Head, viewed from in front, subtriangular; malar space, in profile, not strongly convex, shorter than the eye and without a carinate line between the cheeks and face; antennal depression not margined; second tergite barely visible as a very narrow, easily over-looked, margin around the first; third about half as long as the first; fourth large; fifth and sixth subequal and each about as long as the third; ovipositor tip exposed; propodeum with a delicate but distinct, nearly straight transverse carina.

*Male* unknown.

Three females in the U. S. N. M. Collected on the island of St. Vincent, West Indies.

**Riley collaris**, Howard.

*Ashmeadia collaris* Howard, Journ. Linn. Soc. Lond. Zool. XXVI, 1896, p. 136.

Placed in the key from the original description. Type, a female, in the British Museum, London. Collected on the island of Grenada, West Indies.

**Rileya pulchra** Ashmead.

*Ashmeadia pulchra* Ashmead, Journ. Linn. Soc. Lond. XXV, 1894, p. 145.

*Female*.—Antennae short, the funicle joints all distinctly broader than long; ocelli very small, the postocellar line a little less than twice the ocellocular line; vertex rather flat; antennal depression immargined; antennae inserted apparently a little below the lower extremity of eyes; face below eyes weakly striated; propodeum with a distinct transverse carina which is sharply angulated at the middle, the area before this carina mostly granular with one or two striae medially on each side of middle; area behind the carina longitudinally striated; first tergite about as broad as long; second about two-thirds as long as first; third large; those beyond the third not longer than the first and second combined; tip of ovipositor exerted. For additional characters see key.

*Male*.—The abdominal petiole is as broad as long and distinctly sculptured above; first and second tergites small, the margin of the first very indistinct in the specimen at hand; fourth tergite about equal to the first and second combined; following tergites mostly concealed from above.

Two females and a male in the U. S. N. M. collection from the type series. Collected on the island of St. Vincent, West Indies.

**Rileya heterogaster** new species.

Resembles *mellea* in general appearance but may be distinguished at once from that, as well as most of the other species, by the segmentation of the abdomen.

*Female*.—Length 2.5 mm. Head, viewed from above, three times as broad as long; antennae inserted almost on a line with the lower extremity of eyes; funicle joints all broader than long, the first slightly the longest; distance from antennal depression to apex of clypeus subequal to the distance from antennal depression to the eye margin; antennal depression not margined and rather shallow; face below eyes distinctly striated and separated from cheeks by a distinct carina which runs along the posterior eye margin nearly to the top of eye; malar space fully twice as long as the width of mandible but less than the length of eye; thorax above a little more strongly sculptured and the axillae slightly more broadly separated at base than in *mellea*, the anterior margin of scutellum broader than anterior margin of axillae; propodeum with a strong, straight transverse carina before the middle, the surface before this carina with longitudinal crenulae, behind the carina rather distinctly striato-rugulose; abdomen a little longer than the head and thorax, subsessile, pointed ovate; first tergite (not counting the very short petiole) small, smooth, and subcircular in outline; exposed margin of second equal to about one-third of the length of the first; third comprising fully two-thirds the length of abdomen; fourth not longer than the second and about half as long as the fifth.

the latter about equal to the sixth; ovipositor barely showing at tip. Pale reddish testaceous, the antennal funicle slightly brownish, legs somewhat paler than the thorax; ovipositor sheaths and tarsal claws black.

*Male*.—Length 1.9 mm. Agrees with the female except that the funicle joints are all subquadrate, the abdomen is petiolate, the petiole broader than long and rugose above, the fourth tergite (excluding the petiole) is nearly three times as long as the short second, the third the largest; those beyond the fourth very short and mostly concealed from above; hind tibiae at apex narrowly banded with black.

*Type locality*.—Brownsville, Texas.

*Type*.—Cat. No. 21830 U. S. N. M.

*Host*.—*Asphondylia* sp.

Type, allotype, and six paratypes reared by E. G. Smyth from galls formed in the leaf-axils of what Mr. Smyth calls the "Mimosa tree" (possibly *Leucaena pulverulenta* or *Mimosa lindheimeri*) and recorded in the Bureau of Entomology under Webster No. 6467, Experiments Nos. 3 and 4.

#### **Rileyella mellea** Ashmead.

*Rileyella mellea* Ashmead, Trans. Amer. Ent. Soc. XXI, 1894, p. 321.

*Ashmeadia mellea* (Ashmead) Dalla Torre, Cat. Hymen. V., 1898, p. 331.

*Female*.—Head, viewed from above about two and one-half times as broad as long; postocellar line slightly longer than the ocellular line; vertex somewhat flattened; antennae inserted well above the lower extremity of eyes; face below eyes rather weakly striated; cheeks and face not separated by a distinct carina; malar space scarcely longer than the width of mandible; pronotum and mesoscutum with fine shallow rugulose sculpture, somewhat weaker than in most of the other species; propodeum more or less divided into areas by delicate carinae or striae, the transverse carina very delicate and irregular, often nearly effaced medially, longitudinal striae delicate and widely separated few in number, the median one usually the strongest, first tergite about as broad as long, exposed part of second approximately one-fourth as long as the first; third nearly three times as long as the second, its apex a little in front of the middle of the abdomen; fourth approximately equal to the first three combined; following tergites very short.

*Male*.—The male is like the female except that the abdominal petiole is as long as broad, the first tergite beyond the petiole is broader than long, the apex of the third tergite is a little beyond the middle of abdomen and the fourth is not as long as the first three combined.

Type, allotype, and eight paratypes in the U. S. N. M., Cat. No. 2173. Labelled—"Gall on Skunk Bush." Indian River, Florida. The identity of host plant and gall maker are both unknown.

**Rileyia compressiventris**, new species.

This species resembles *mellea* Ashmead in general appearance but may be easily distinguished from that as well as all other species by the more strongly compressed abdomen of the female and the longer petiole of the abdomen in the male.

*Female*.—Length 2.25 mm. Funicle joints subequal and very slightly broader than long, the first joint slightly the longest, head viewed from above, not more than two and one-half times as broad as long, the vertex rather flat and a little more strongly sculptured than in *mellea*; antennae inserted slightly above the lower extremity of eyes; face below eyes with fine close striae which converge at clypeus; malar space a little longer than base of mandible but not twice as long; without a distinct carina along the malar groove and behind the eye: ocellular line about three-fourths the postocellar line; dorsum of pronotum shorter than the mesoscutum; mesoscutum and scutellum rather strongly scaly-punctate; propodeum with a distinct straight transverse carina, the surface in front of this carina as well as behind longitudinally striate, the median stria a little stronger than the others; stigmal vein about half the length of postmarginal and a little more than one-third the length of marginal; abdomen about equal in length to the head and thorax, strongly compressed from the sides, its dorsal width much less than its dorso-ventral height, the dorsum strongly arched antero-posteriorly; tergites, except the three basal ones, finely sculptured; first tergite (not counting the very short petiole) longer than broad, elliptical in outline; exposed apex of second a little less than half the length of first and about equal to half the exposed length of third, the latter reaching to about the basal one-third of abdomen; fourth tergite covering most of the remainder of abdomen; fifth about equal to the second; following tergites very short; tip only of the ovipositor exposed. Color pale reddish testaceous, the head except vertex pale yellow, antennal flagellum brownish, apex of ovipositor sheaths and tarsal claws black.

*Male*.—Length 2 mm. Agrees with the female except that the funicle joints are subquadrate, the abdominal petiole is slender, a little more than twice as long as thick, and finely sculptured; the abdomen is not strongly compressed, its tergites differently proportioned and the posterior tibiae are dark brown or blackish except at base; the first tergite (excluding the petiole) is nearly circular in outline, the second very narrowly exposed, third twice as long as the second, the three basal tergites together covering about one-fourth of the abdomen; fourth tergite covering the greater part of abdomen; fifth about as long as the first; following tergites practically concealed from above.



*Type locality*.—Brownsville, Texas.

*Type*.—Cat. No. 21831 U. S. N. M.

Type, allotype, and a large number of paratypes reared by E. G. Smyth from galls of *Asphondylia* sp. on what Mr. Smyth calls "Mimosa tree" (possibly *Leucaena pulverulenta* or *Mimosa lindheimeri*) and recorded under Webster No. 6467, Exp. No. 1.

The types of *Ceratoneura pretiosa* Gahan (Proc. U. S. N. M., vol. 48, 1914, p. 165) were reared from the same lot of material as were the types of this species. The Webster number given in the closing paragraph of the original description of *C. pretiosa* should have been No. 6467 instead of 6480.

#### Rileyia hegeli, Girault.

*Rileyia hegeli* Girault, Can. Ent. XLVIII, 1916, p. 340.

In this species, known only from the unique female type, the head is three times as broad as long as viewed from above; the malar space longer than width of mandible at base; cheeks not separated from face by a carina; the first tergite (excluding the very short petiole) is small and nearly circular in outline, the exposed margin of second and third subequal and together about two-thirds as long as the first; the first, second, and third together constitute about one-fourth the length of abdomen; fourth tergite fully twice as long as the three first combined, following tergites combined about equal to the first; propodeum with a distinct transverse carina.

*Type*—Cat. No. 20324 U. S. N. M., collected at Biscayne Bay, Florida.

#### Rileyia piercei Crawford.

*Rileyia piercei* Crawford, Proc. Ent. Wash. XVI, 1914, p. 29.

Known only from the unique male type. The species is easily distinguished from all others by the fact that the second visible tergite is much the largest. Head nearly three times as broad as long, antennae inserted above the lower extremity of eyes; funicle joints all broader than long; malar space, about twice as long as the width of mandible; the carina separating cheeks and face not very distinct; postocellar line fully twice as long as the ocellocular line; propodeum with a strong straight transverse carina, the surface before this carina rugulose and more or less crenulate, behind the carina longitudinally striate; abdominal petiole broader than long, rugosely sculptured; first tergite more than one-fourth but less than one-third as long as the abdomen, second a little less than twice as long as the first; third approximately two-thirds as long as the first; following tergites concealed from above.

*Type*—Cat. No. 16701 U. S. N. M., collected on *Thurberia thespesioides*, Fish Creek, Arizona.

**Rileyia insularis** Ashmead.

*Ashmeadia insularis* Ashmead, Journ. Linn. Soc. Lond. Zool. XXV, 1894, p. 143 & 144.

As represented by the male allotype in the U. S. N. M. this species is easily distinguished from the other black species by reason of having the third tergite (not counting the petiole) much the largest and extending far beyond the middle of abdomen, the fourth not longer than the first and only a little longer than the fifth; second tergite very short. The antennal depression is margined, face striated below the eyes, malar space shorter than the eye, carina on cheek and behind the eye not strongly developed; postocellar almost twice the ocellocular line; propodeum with a distinct transverse carina which is angulated at the middle, the area behind this carina longitudinally striated.

The female is placed in the key from the original description.

Type female in the British Museum, London; allotype male in the U. S. N. M., Cat No. 2418. Collected on the Island of St. Vincent, West Indies.

A male specimen of this species in the U. S. N. M. collected at Chapada, Brazil, is labelled in Ashmead's handwriting "*Rileyia orbitalis* Ashmead" and bears the type label "♀ Type No. 8080 U. S. N. M." This cannot be the type of *orbitalis* which was described according to Ashmead from a female from Santarem, Brazil and should be in the collection of the Carnegie Museum, at Pittsburgh. The specimen does not agree with the color description of *orbitalis*.

**Rileyia pallidipes** Ashmead.

*Ashmeadia pallidipes* Ashmead, Journ. Linn. Soc. Lond. Zool. XXV, 1894, p. 144.

*Male*.—Funicle joints subquadrate; face below eyes striate, the striae not extending above the base of antennae; antennal depression not margined; malar space not nearly twice as long as the width of mandible, much shorter than the height of eye; face not separated from cheek by a distinct carina; ocellus separated from the eye-margin by about the diameter of an ocellus; dorsum of pronotum not margined laterally; propodeum with a distinct transverse carina, the area before this carina striated, behind the carina without distinct striations; abdominal petiole about one and one-half times as long as broad and nearly smooth; first tergite about as broad as long; second and third short and subequal, together distinctly shorter than the first; fourth large, extending nearly to the apex of abdomen; fifth about as long as the first; following tergites concealed from above; stigmal vein short, less than half the length of post-marginal.

One specimen in the U. S. N. M., apparently the unique male type. Collected on the island of St. Vincent.

**Rileyia abnormicornis** Ashmead.

*Ashmeadia abnormicornis* Ashmead, Journ. Linn. Soc. Lond. Zool. XXV, 1894, p. 145.

*Male*.—Differs from all other species in the antennae, the first four funicle joints each strongly narrowed at apex into a cylindrical neck which is nearly as long as the more or less spherical basal portion of the segment, the fifth funicle joint without a neck and rather closely joined to the club; otherwise appears to be a nearly typical *Rileyia*. The head is fully three times as broad as long, the postocellar line twice the length of the ocellocular, face below eyes strongly striated; antennal depression margined; carina on cheeks and behind the eye moderately distinct; propodeum with a distinct transverse carina which is angulated at the middle; abdominal petiole very short; first tergite rather large; second small; third reaching to the middle of abdomen, about twice as long as the second; fourth the largest tergite; fifth about equal in length to the exposed part of third; following concealed from above.

*Female*.—Unknown.

One male specimen in the U. S. N. M., apparently the unique type, collected on the island of St. Vincent, West Indies.

**Rileyia orbitalis** Ashmead.

*Rileyia orbitalis* Ashmead, Mem. Carnegie Mus I, 1904, p. 467.

Placed in key from the original description. Type, a female, in the collection of the Carnegie Museum, Pittsburgh, Pa. Type locality Santarem, Brazil.

**Rileyia gallicola** Kieffer and Jörgensen.

*Rileyia gallicola* Kieffer and Jörgensen, Centralb. Bakt. Paras. Insekt., Bd. 27, 1910, p. 437.

Placed in the key from the original description. Location of type unknown. Type locality, neighborhood of Mendoza, province of Mendoza, Argentina, South America.

**Rileyia albicornis** Kieffer and Jörgensen.

*Rileyia albicornis* Kieffer and Jörgensen, Centralb. Bakt. Paras. Insekt., Bd. 27, 1910, p. 367.

Placed in key from original description. Described from female, location of type unknown. Type locality, Province of Mendoza, Argentina, S. A.

**Rileya tegularis**, new species.

*Female*.—Length 2.2 mm. Head, viewed from above, fully three times as broad as long; middle of face finely sculptured, subopaque; sides of face with fine, close striae, which converge at clypeus, none of the striae extending upward much beyond the base of antennae; antennal groove margined at sides, open above and weakly sculptured within; rest of head finely rugulose sculptured, opaque; a delicate but distinct carina separates the cheeks from the face and extends upward along the posterior eye margin, from which it is narrowly separated, to near the top of the eye where it joins the eye-margin; postocellar line about twice the ocellular line; antennal scape not quite reaching the anterior ocellus, slightly thicker at base than apex; pedicel hardly one and one-half times as long as thick; first ring-joint narrower than the other two and approximately half as long as broad; second and third ring-joints strongly transverse; first funicle joint subquadrate, the following funicle joints slightly broader than long; thorax above sculptured like the occiput; dorsal aspect of pronotum as broad as and a little longer than the mesoscutum, rounded in front, its anterior margin with a very delicate marginal carina laterally but absent medially, the angle between the dorsal and lateral aspects of the pronotum rounded or at least not sharp and not margined; propodeum rugulose with a strong transverse carina which is sharply angulated at the middle, the apex of angle sometimes touching the anterior margin of propodeum; marginal vein about one-half the submarginal and about twice the postmarginal, the stigmal distinctly shorter than the postmarginal, abdomen about equal in length to the head and thorax, robust; first tergite (excluding the very short petiole) smooth, a little broader than long, and semicircular in outline; exposed portion of the second also smooth and not quite half as long as the first; third finely sculptured, its exposed margin about one and one-half times that of the second; fourth occupying most of the dorsum of abdomen and distinctly, finely sculptured; fifth tergite not longer than the second; and also sculptured; sixth about twice as long as the fifth and similarly sculptured; following tergites very short; tip of ovipositor barely visible from above. Black; antennal flagellum brownish, scape brownish black; spot on mandibles, apices of all femora, base and apex of median and hind tibiae, front tibiae almost entirely, all tarsi with the exception of claws, and the venation pale testaceous; median and hind tibiae broadly dark brownish medially; wings hyaline.

*Male*.—Length 2 mm. Agrees with description of female except as follows; antennal pedicel hardly longer than broad; marginal vein a little less than half the submarginal; abdomen petiolate, the petiole broader than long and distinctly sculptured; first tergite (not counting the petiole) nearly twice as broad as long down the middle, faintly sculptured; second less than half the length of first, distinctly sculptured; third reaching to the middle of abdomen and distinctly sculptured; about equal to the first

and second combined; fourth subequal in length to the third and similarly sculptured; fifth approximately one-half as long as the fourth and sculptured; following tergites mostly concealed from above. Color as in the female but with the tibiae less brownish medially and the middle and front femora barely stained with blackish at base.

*Type locality*.—Tempe, Arizona.

*Type*.—Cat. No. 21832 U. S. N. M.

*Host*.—*Asphondylia* sp.

Type, allotype and a large series of paratypes reared by V. L. Wildermuth from stem galls on *Pluchea borealis* and recorded under Tempe No. 2742. Also a large series from the same locality reared by Wildermuth from galls on *Suaeda* sp. under Tempe No. 2741.

The length of this species varies from 2 to 2.5 mm. and the color of the legs is also variable to some extent.

#### Rileyia cecidomyiae Ashmead.

*Rileyia cecidomyiae* Ashmead, Bul. 3, Kansas State Agri. College, 1888, p. 3, Appendix.

*Female*.—As represented by the female allotype, the head, as viewed from above is more than three times as broad as long, the postocellar line distinctly longer than the ocellular line; face below the eyes distinctly striate with some of the striae extending upward along the eye-margin above the base of antennae; antennal depression distinctly margined; cheeks separated from face by a distinct carina which extends along the posterior eye-margin and narrowly separated from it nearly to the top of the eye; malar space equal to about twice the width of mandible, shorter than the eye; pronotum as long and as wide as the mesoscutum; propodeum with a distinct transverse carina which is curved forward but not sharply angulated medially, the area before this carina rugulose with some rather indefinite striae, the area behind the carina distinctly striated; first tergite nearly circular; exposed margin of second approximately one-third the length of first; third about twice the length of second; the three basal tergites together constituting about one-third the length of abdomen; fourth tergite large; fifth about equal to the third; following tergites short; ovipositor tip exposed.

*Male*.—Abdominal petiole about as long as broad, weakly sculptured above; first tergite beyond the petiole broader than long; second very narrow; third fully as long as the first and second combined and extending to the middle of abdomen; fourth somewhat longer than the third; fifth shorter than the first; following very short, practically concealed from above.

This species is represented in the National Museum by the allotype female and three paratypes of which one is a male; all from Jacksonville, Florida. The type is a male and is believed to be in the collection of the Kansas State Agricultural College at Manhattan, Kansas. This type has not been examined.

**Rileyia similaris**, new species.

*Female*.—Length 2.25 mm. Differs from the description of *tegularis* as follows; the middle of face is slightly more shining, not quite as strongly sculptured; striations at sides of face slightly coarser; margination of antennal depression a little stronger; postocellar line a little less than twice the ocellocular line; pronotum with dorsal lateral margins sharply angulated and more or less distinctly carinately margined; scutellum with a rather distinct transverse ridge at, or a little behind, the apical one-third; propodeum rugose, with a transverse carina which is sharply angulated at the middle, the apex of angulation touching the basal margin of propodeum, the area before the transverse carina and lying between the median line and the spiracle with two more or less irregular longitudinal carinae, the area behind the transverse carina coarsely striated; postmarginal vein two-thirds the length of marginal and nearly twice as long as stigmal; three basal tergites (not counting the very short petiole) small; exposed margin of second tergite not more than one-third as long as the first; third fully twice as long as the second, its apex at about the basal one-third of abdomen; fourth large; tergites beyond the fourth together about equal in length to the first; tip of ovipositor exposed. Tegulae and scape pale reddish-testaceous; flagellum fuseo-testaceous; otherwise the color is like *tegularis* except that the trochanters are pale testaceous like the knees and tarsi and the tibiae are not conspicuously brownish medially.

*Male*.—Length 2.2 mm. Postocellar line twice as long as the ocellocular line; abdominal petiole broader than long and rugose above; first tergite (not counting the petiole) broader than long; second about one-third as long as the first; third about equal in length to the first and second combined and extending to the middle of abdomen; fourth equal to the second and third combined; fifth about equal to the first; following tergites concealed from above. Agrees with the female in other characters.

*Type locality*.—Brownsville, Texas.

*Type*.—Cat. No. 21833 U. S. N. M.

*Host*.—*Asphondylia* sp.

Type, allotype, and a large number of paratypes reared July 3–15, 1912, by E. G. Smyth from galls on the "Mimosa tree" (possibly *Leucaena pulverulenta* or *Mimosa lindheimeri*) and recorded in the Bureau of Entomology under Webster No. 6467, Exp. Nos. 1 and 2.

**Rileyia americana** Girault.

*Rileyia americana* Girault, Can. Ent. XLVIII, 1916, p. 339.

*Female*.—Slightly larger than any of the other known North American species and may be separated from any of the other species by the short postocellar line. The malar space is more than twice as long as the width of mandible; face below eyes coarsely striated, some of the striae extending upward<sup>a</sup> along the inner eye-margin far above the base of antennae; carina separating cheeks from face strong and extending along the posterior eye-margin to the top of eye; propodeum with a strong transverse carina which is angulated at the middle, the area in front of this carina and between the median line and spiracle with two carinae which converge and meet at the anterior margin of propodeum; area behind the transverse carina coarsely striated; first tergite a little broader than long; second not quite half as long as the first and about half as long as the third; fourth longer than the first three combined; fifth, sixth, and seventh subequal to each other and each about as long as the first; abdomen acuminate at apex and considerably longer than the head and thorax; ovipositor exposed at tip.

Type and two paratype females in the U. S. N. M., Cat. No. 20323. The types of this species according to the Bureau of Entomology records under No. 5140<sup>o</sup> were reared Sept. 7, 1891, from a Cecidomyid gall on *Helenium autumnale* sent in by Mr. H. G. Barlow from Cadet, Missouri.

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A NOTE ON THE ECONOMIC IMPORTANCE OF *SAMIA CECROPIA*  
(LEP.)

BY C. N. AINSLIE.

Very few of our working entomologists have escaped the infliction of having brought to them from time to time, among other rare things, finger worn specimens of Cecropia moths, believed by the enraptured finder to be something entirely new and valuable. Nearly all of our collectors are aware that this huge moth is fairly common in most localities of the northern states, and they also know that its habit of hiding among the tree tops during the day is most effective in protecting it from observation and capture.

Insect Life, Vol. I, p. 155, records an instance of the appearance of this species, *Samia cecropia*, in unusual and destructive numbers in Custer County, Nebraska, in 1888, but such cases seem to be uncommon. In a heavily timbered locality the larvae of the Cecropia may exist in large numbers and not be noticed unless